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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/689,180	10/20/2003	Johann Epple	AGCO/LTD3	2708

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EXAMINER

BROWN, DREW J

ART UNIT	PAPER NUMBER
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3616

DATE MAILED: 08/29/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/689,180	Applicant(s) EPPLE ET AL.	
	Examiner Drew J. Brown	Art Unit 3616	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
 - If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
 - If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
 - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-12 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-12 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 10/20/03 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|--|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>4/16/04 & 4/19/05</u> . | 6) <input type="checkbox"/> Other: ____ |

DETAILED ACTION

Specification

1. The specification is objected to because it should include the following sections in order.

If no text follows the section heading, the phrase "Not Applicable" should follow the section heading:

- (a) TITLE OF THE INVENTION.
- (b) CROSS-REFERENCE TO RELATED APPLICATIONS.
- (c) STATEMENT REGARDING FEDERALLY SPONSORED RESEARCH OR DEVELOPMENT.
- (d) THE NAMES OF THE PARTIES TO A JOINT RESEARCH AGREEMENT
- (e) INCORPORATION-BY-REFERENCE OF MATERIAL SUBMITTED ON A COMPACT DISC (See 37 CFR 1.52(e)(5) and MPEP 608.05. Computer program listings (37 CFR 1.96(c)), "Sequence Listings" (37 CFR 1.821(c)), and tables having more than 50 pages of text are permitted to be submitted on compact discs.) or REFERENCE TO A "MICROFICHE APPENDIX" (See MPEP § 608.05(a). "Microfiche Appendices" were accepted by the Office until March 1, 2001.)
- (f) BACKGROUND OF THE INVENTION.
 - (1) Field of the Invention.
 - (2) Description of Related Art including information disclosed under 37 CFR 1.97 and 1.98.
- (g) BRIEF SUMMARY OF THE INVENTION.
- (h) BRIEF DESCRIPTION OF THE SEVERAL VIEWS OF THE DRAWING(S).
- (i) DETAILED DESCRIPTION OF THE INVENTION.
- (j) CLAIM OR CLAIMS (commencing on a separate sheet).
- (k) ABSTRACT OF THE DISCLOSURE (commencing on a separate sheet).
- (l) SEQUENCE LISTING (See MPEP § 2424 and 37 CFR 1.821-1.825. A "Sequence Listing" is required on paper if the application discloses a nucleotide or amino acid sequence as defined in 37 CFR 1.821(a) and if the required "Sequence Listing" is not submitted as an electronic document on compact disc).

Appropriate correction is required.

2. The specification is also objected to because it should not refer to specific claim numbers, as the claims may change during prosecution (see pg. 2-3).

Claim Objections

3. Claim 1 is objected to because of the following informalities: Instead of “a resilient suspension member connected at one end to the chassis end the other to the swing arm,” the claim should read “a resilient suspension member connected at one end to the chassis end, and the other end to the swing arm.” Also, it appears “transverse swing arms” should be “longitudinal swing arms,” as the spring arms extend and pivot in a longitudinal direction [See also pg. 2, last paragraph, which refers to a “longitudinal swing arm”]. Appropriate correction is required.

4. Claim 5 is objected to because of the following informalities: Instead of “a guide mounted on the chassis a slide mounted on the swing arm,” the claim should read, “a guide mounted on the chassis, and a slide mounted on the swing arm.” Appropriate correction is required.

Claim Rejections - 35 USC § 112

5. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

6. Claims 1-12 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

7. Claim 1 recites the limitation "said wheel support" in line 9. There is insufficient antecedent basis for this limitation in the claim.

8. Claim 6 recites the limitation "the wheel shaft" in line 2. There is insufficient antecedent basis for this limitation in the claim.

Claim Rejections - 35 USC § 103

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

10. Claims 1-4, 8, and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Krude (U.S. Pat. No. 4,705,128) in view of Ballamy et al. (U.S. Pat. No. 2,418,744).

Krude discloses a vehicle suspension comprising a pair of transverse swing arms 90, where each arm of the pair extends in the longitudinal direction of the vehicle and is pivotally mounted (102 and 104) on respective opposite sides of the chassis of the vehicle. A resilient suspension member 164 is connected at one end to the chassis end and the other to the swing arm. Each of the transverse swing arms comprise a wheel mount 96 with a wheel final drive mounted 98 within the wheel mount, wherein the wheel support is integral with the swing arm, includes a housing that extends towards the gearbox, and substantially encloses the drive shaft 76 between the wheel final drive and the gear box. Each swing arm is guided in its pivot plane at a certain distance from the swing arm's pivot mount point on the chassis (22 & 24), and the wheel support is guided against lateral movement by a transverse swinging arm 22.

Although a drive shaft is disclosed, Krude does not disclose that the drive shaft has an inboard end connected by a flexible coupling to an output shaft of a gearbox of the vehicle and an outboard end connected by a flexible coupling to a wheel final drive, wherein the drive shaft comprises a pair of shaft halves slidable with respect to one another.

Ballamy et al., however, does disclose a drive shaft 15 and 16 having shaft halves slidable with respect to one another, or telescopic (column 2, lines 41-43). The inboard end is connected by a flexible coupling (inner 18) to an output shaft of a gearbox 17, and the outboard end is connected by a flexible coupling (outer 18) to a wheel final drive.

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Krude with the teachings of Ballamy et al. to have a telescoping drive shaft with flexible couplings so most of the lateral forces would be absorbed by the drive shaft instead of acting on the differential gear.

11. Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Krude in view of Ballamy et al. as applied to claims 1-4, 8, and 12 above, and further in view of Fukui (U.S. Pat. No. 4,669,559). Krude, as modified by Ballamy et al., discloses the claimed vehicle suspension as discussed above but does not disclose that the wheel final drive includes a reduction gear. Fukui, however, does disclose a reduction gear 18 located within the wheel final drive.

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to further modify the invention of Krude as modified by Ballamy et al. with the teachings of Fukui to have a reduction gear within the wheel final drive in order minimize torque acting on the drive shaft and also minimize the external dimensions of the drive shaft.

12. Claims 10 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Krude in view of Ballamy et al. as applied to claims 1-4, 8, and 12 above, and further in view of Matschinsky (U.S. Pat. No. 3,952,824). Krude, as modified by Ballamy et al., discloses the claimed vehicle suspension as discussed above but does not disclose a wheel brake comprising a brake disc and a brake saddle mounted in the wheel support, wherein the brake saddle is

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pivotable between active and inactive positions, and the wheel support includes a shutter covering an opening in the wall of the wheel support, wherein the brake saddle passes through the opening when the shutter is opening to the inactive position. Matschinsky does disclose a brake disc (fig. 5), a brake saddle 17, and a brake shutter 18. The brake saddle is pivotable through guide member 9 between active and inactive positions, wherein the shutter pivots to uncover an opening in the wall of the wheel support to the inactive position. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to further modify the invention of Krude as modified by Ballamy et al. with the teachings of Matschinsky to use a brake saddle and shutter to facilitate the inspection and repair of the brake.

Allowable Subject Matter

13. Claims 5-7 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Woo (U.S. Pat. No. 6,193,250 B1), McFarland et al. (U.S. Pat. No. 2,873,980), Boes et al. (U.S. Pat. No. 6,390,486 B1), Rose (U.S. Pat. No. 2,172,177), and Kami et al. (U.S. Pat. No. 4,717,171) disclose similar vehicle suspension systems.


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Drew J. Brown whose telephone number is 571-272-1362. The examiner can normally be reached on Monday-Thursday from 7 a.m. to 4 p.m..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Paul N. Dickson can be reached on 571-272-6669. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Drew J Brown
Examiner
Art Unit 3616

DJB



DAVID R. DUNN
PRIMARY EXAMINER